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REMARKS
ON
INTERSTITIAL ABSORPTION
OF THE
NECK OF THE THIGH-BONE.

BY
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EDINBURGH:
PRINTED FOR MACLACHLAN & STEWART, EDINBURGH;
AND BALDWIN, CRADOCK, & JOY, LONDON.

1824.

P. NEILL, Printer, Edinburgh.

TO

SIR ASTLEY COOPER, BART. F. R. S.

SURGEON TO THE KING,

&c. &c.

MY DEAR SIR,

WITH great diffidence I take the liberty of dedicating to you the following Remarks, upon an affection which you have repeatedly alluded to in your late valuable publication. You will excuse me, I trust, for doing so, as my motives proceed from feelings of the sincerest gratitude for past kindness, and of high esteem and respect for your private and professional character.

Anxiously hoping that you will regard with a lenient eye the numerous imperfections of this short production,

I remain,

DEAR SIR,

Your most sincerely attached Pupil,

BENJAMIN BELL.

EDINBURGH,
26. St Andrew's Square, }
November 1824.

P R E F A C E.

THE remarks contained in the following pages are the result of a series of observations made on the living, and of examinations of the dead body, during the last two years. My object in presenting them to the public, is to direct the attention of Anatomists and Surgeons to an affection which, I am persuaded, is of more common occurrence than has been hitherto generally imagined. It would be presumptuous in me to suppose that I have succeeded in throwing any new light on the subject; but I trust that my professional brethren will, in consideration of my object, excuse me for having taken the step I have done.

The subsequent observations have been compressed into as small a space as was consistent with perspicuity, and the delineations which accompany them, were drawn by myself upon stone, without the intervention of any copy, from preparations in my own possession; so that I can vouch for their fidelity with confidence.

REMARKS
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A CONTROVERSY has been carried on during the last two or three years, concerning a class of injuries involving some very interesting physiological and practical questions. I allude to fracture of the *Cervix femoris*, occurring within the *Orbicular Ligament* of the Hip-Joint.

Some practitioners are of opinion, that a bony union can never take place between the fractured extremities in that situation; while others entertain a contrary idea. My own practice has not been sufficiently extensive to enable me to decide either one way or other. But, reasoning from the accounts given in many of the surgical works of this and the two preceding centuries, I am inclined to think, that ossific union is a result of very rare oc-

currence. Indeed, until the middle of last century, no account had been published of the “*post mortem*” examination of persons in whom fracture of the neck of the femur had taken place during life.

In the writings of many of the older surgeons, we find fracture of the neck of the Thigh-bone stated as being not an uncommon accident; but they all agree in asserting, that it constitutes an injury of the most severe character, and of the most difficult treatment.

The ancients do not, however, appear to have drawn any line of distinction between those fractures which take place entirely within the orbicular ligament, and those which implicate also the great trochanter.

So early as the year 1579, we meet with a most accurate description of the characteristic symptoms of fracture at the neck of the thigh-bone, and a judicious method of treating that accident laid down. The author to whom I allude is AMBROSE PAREY, whose writings, at the period in which he flourished, tended much to the improvement of scientific surgery *. For the sake of those who do

* PAULUS DE ÆGINA is the first author who alludes to the fracture as occurring near the head of the femur; but PAREY, as is stated in the text, is the first who pointed out the distinction between the transverse and oblique varieties. PAUL DE ÆGINE is mentioned by L'ÉVEILLE in a work of his entitled, *Nouvelle Doctrine Chirurgicale*, &c. Paris, 1812, vol. ii. p. 289.

not think it worth their while, or whose professional avocations do not afford them leisure, to peruse the works of the ancients, I trust that I shall be excused for inserting a pretty long quotation from PAREY upon the subject under consideration.

After relating a case of fracture of the Femur, PAREY observes: " For there it (fracture) is at the Cervix Femoris more dangerous than in the midst of the thigh, and consequently more difficult to dress and heal, for that the part is bloodless, and, by reason of the multitudes of nerves, and tendons and ligaments, which are obnoxious to many malign symptoms. But the surgeon must have diligent care in this kind of fracture, and must look often that the bone which is set do not fall forth again, which easily happens here by any slight stirring of the body, and the like occasion; for that the thigh hath one onely bone. Therefore, as oft as the bandage shall be loosed, and the fracture dressed, he shall attentively view the figure of the bone, and the magnitude of the affected part, comparing it with the sound; for the set and composed fragments of the broken bone can scarce fall asunder but that the one must be on the other.

" But before it be knit, the part must be extended, and restored to its state, that so the patient may not halt during the residue of his life: for I have read it written in AVICENNE, that scarce any do well, or recover a fractured thigh; therefore the

patient must be careful that he move himself in his body as little as he can.

“ Many of the ancients have set down the consolidation of this bone to be fifty days. But, as I formerly said, there can be no certain or determinate time hereof. But in what time soever this bone shall be knit, the patient must not stand or go thereon presently upon it ; for that there remains a weakness in this part a long time after, so that the patients are forced to use crutches to go withal, in the mean space while they recover more strength *.” It does not appear from the statement of PAREY, that he made any distinction between those fractures which were within and those external to the capsular ligament. He merely alludes to an injury occurring near the head of the bone, and does not mention whether the superior part of the shaft of the femur or trochanter were implicated in the injury.

One of our own countrymen, who was Surgeon to the King of France, observes, that in his time also, practitioners had a great horror of fractures occurring near the head of a bone. Fractures in such a situation, he remarks, are “ difficile, and the motion afterwards not good ;” “ and in old and

* The Works of AMBROSE PAREY, translated by J. H. JOHNSTON, London, 1678, p. 340.

chollerick people are very difficile, and in very old people be very impossible*.”

It does not seem to me to be necessary to bring forward any farther proofs of the opinions which the older authors entertained relative to the fracture of the neck of the thigh-bone. I may merely remark, however, that PETIT † regarded fracture of the neck of the Femur as an accident similar in every respect to the same kind of injuries occurring in other parts, and directs the same line of practice to be pursued in the treatment of it. HEISTER, who wrote several years afterwards, condemns the doctrine of PETIT relative to the cure of the fractured cervix femoris, and observes also, that transverse fractures in that situation are more likely to terminate in union than those which are oblique. “*Namque muscoli, valde robusti, vehementissime, hic contracti, partem ossis inferiorem quam validissime simul sursum attrahunt, adeoque non nisi per maximam vim adhibitam extenduntur atque in sedes suas reponuntur. Ita etiam oblique fracta femorum ossa longe facilius, ac ea, quæ transversa, fracta sunt, rursus e sede naturali recedunt, fereque*

* A Discourse of the whole Art of Chirurgerie, compiled by PETER LOVVE, a Scotsman, Ordinary Chirurgeon to the French King, London, 3d edition, 1634.

† PETIT, *Traité de Malad. des Os.* Paris, 1705.

semper membrum brevius relinquunt *.” It is reasonable to suppose, that, by the oblique fracture mentioned in HEISTER, we are to understand that variety of the injury which commences within and extends externally to the capsule.

Should this supposition be correct, his notions are at variance with those of the present day. We have no conclusive proof, however, that such was the meaning of the author; and in truth the attention of the practitioners of that age does not appear to have been particularly directed to the point at issue.

During the last few years, the possibility of a bony union taking place within the orbicular ligament † of the hip, after fracture of the neck of the thigh-bone, has formed a question of serious importance to the profession. Nor do the proofs at present before the public appear sufficiently satisfactory to determine the point, as many of those cases brought forward in support of what may be termed the union doctrine ‡, have not proved to be frac-

* HEISTER, Chirurg. P. i. Lib. ii. Cap. 8. Amstelodami, 1739.

† Vide an interesting case of SALZMANNUS, related by MORGAGNI, in which, on dissection, it appeared that the head of the bone had been entirely absorbed.—MORGAGNI, De Causis et Sed. Morb. Epist. 56. Lib. iv.—JOHANNES SALZMANNUS, De Luxatione Ossis Femoris rariore, frequentiori colli fractura, Argentoratum, 1723, in HALLERI selectis.

‡ RUYSCH, in the Thesaur. Anat. 3. No. 103. describes

tures within the capsule, in the strictest acceptation of the term, but are fractures extending beyond the orbicular ligament, in the direction of the greater trochanter. Some of those preparations, also, which have been exhibited with the same design, are not fractures, but merely specimens of that affection which Sir A. COOPER has termed Absorption, with yielding of the neck of the Femur. DESAULT, and most of the French surgeons of the present day, are of opinion that bony union does take place after fracture of the *cervix femoris* within the capsule * ; while Sir A. COOPER, and most of the British practitioners, maintain that such a result seldom if ever occurs. It is not asserted, however,

an interesting case of fracture at the neck of the femur, with a plate.

* L'EVEILLE' observes, " La consolidation se fait constamment contre l'idée d'un tres grand nombre de pathologistes, qui sont efforce, de prouves que le col du fémur était sans périoste. L'age n'est point un obstacle à la formation du cal, qui a en lieu chez un vieillard de 84 ans, selon l'observation de SESME, et d'apres la mienne, chez une femme de 84 ans, immédiatement confié aux soins de mon confrère M. ARNAUD MARCHAIS interne de l'Hôtel-Dieu de Paris, en 1793." Lib. citat. p. 292. The author neither mentions the precise situation of the fracture, nor alludes to the appearance presented on examining the body after death, so that his testimony cannot be considered as of any importance in deciding the question.

Vide, also, Elements of Surgery, by JOHN LYN G DORSEY, vol. i. p. 169, Philadelphia, 1823.

by the surgeons of this country, that cases of bony union have never presented themselves, but they merely affirm that it constitutes an extremely rare sequel, and is, according to Sir A. COOPER, to be met with in those instances only where the reflected ligament and periosteum enveloping the neck of the bone have not been ruptured. That such is Sir ASTLEY's opinion, I have been fully convinced, from repeated conversations with him upon the subject, and also from the statements contained in the second edition of his invaluable publication on Dislocations, and in the Appendix to that work *.

Having made these few cursory observations on fracture of the neck of the thigh-bone, with a view to render more intelligible the immediate object of this memoir, I shall proceed, without farther preface, to offer a few remarks on the subject, to which

* "It has been falsely asserted, that I deny the possibility of the union of a fractured neck of a thigh-bone; and to show that I only contend for a general principle, and am ready to allow an exception might occur, I make the following quotation from my work on Dislocations and Fractures, 2d ed. p. 127." "In all the examinations which I have made of transverse fractures of the Cervix femoris, entirely within the capsular ligament, I have never met with one in which ossific union had taken place, or which did not admit of motion of one bone upon the other. To deny its possibility, and to maintain that no exception to a general rule can take place, would be presumptuous, especially when we consider the varieties of direction in which a fracture may occur, and the degree

I am anxious to direct the attention of the profession.

There is an affection which, on examining after death the bodies of persons at an advanced period of life, bears a striking resemblance in some of its phenomena to ossific union of fracture of the Cervix Femoris within the capsule. During life, however, the symptoms of both differ essentially from each other. But in some respects, there exists a similarity between them. In both, we meet with a shortening, to a greater or less extent, of the affected limb. In both, the sphere of motion of the hip-

ng'

of violence by which it may be produced: as, for example, when the fracture is through the head of the bone *, and there is no separation of its fractured end, or when the bone is broken without its periosteum or reflected ligament being torn; or when it is broken obliquely, partly within, and partly external to the capsular ligament; but all I wish to be understood to say, is, that, if it ever does happen, it is a very rare occurrence, and I have not yet met with a single example of it."—*Observations on the Fracture of the Neck of the Thigh-bone*, Lond. 1823.

* In confirmation of the possibility of such an accident occurring, I shall insert a passage from BOYER, *Traité de Maladies Chirurgicales*, &c. vol. iii. p. 261. "Nous avons vu un homme qui a pu marcher pendant plusieurs jours avec le secours d'un baton avant que les fragmens d'un fracture du col du femur se fussent déplacés."

MORGAGNI quotes a similar case from GREGORY BARBETT's *Apologia di Due Cure*, in which the patient walked without any difficulty for fourteen days after the accident.

joint is diminished, and both exist most frequently in old persons.

In order to render the following account perfectly distinct, it appears advisable to divide the subject into two heads: the first division including the History and Symptoms of the affection; and the second comprehending a description of the phenomena it presents on Dissection.

HISTORY AND SYMPTOMS.

¹¹ In persons at an advanced period of life, we frequently observe an evident inclination of the body forward. This inclination or bending of the body forward, depends, in a great measure, upon the failure of muscular power, the weight of the head, and superior portion of the trunk becoming too great in old age for the enfeebled dorsal and lumbar muscles to sustain.

We do not find, however, that the stoop forms a regular curve; for, on examination, it will be perceived that the curvature is very acute at the joint of the hip, and slight, comparatively speaking, in the back and loins. In fact, there is superadded to the bending forward of the vertebral column, a permanent semiflexion of the femur upon the pelvis. In some individuals, the stoop has, to a certain extent, a lateral inclination, and, in these cases, as far as I have been able to observe,

the limb on the more depending side is somewhat shorter than the limb of the opposite side.

Individuals thus affected cannot perform the motions of abduction, nor can they extend the femur beyond a very limited range *. A dull pain and sense of weariness are felt in the region of the hip-joint, and these are much increased on the slightest exertion.

The patient cannot stand erect without experiencing considerable uneasiness in the joint. Pains, resembling those of rheumatism, dart down the thigh, and spread across the loins. The muscles of the lower extremities become wasted, and almost powerless, and the general health at last becomes impaired.

In general, the symptoms described above, do not present themselves until a very advanced period of life. I have met, however, with instances in which they occurred in middle age.

In cases which occur in middle age, it does not always appear to be an idiopathic affection, but is sometimes the direct result of a fall, blow upon, or other injury equally severe, of the trochanter major. The patient, immediately on receipt of the injury, complains of acute pain in the hip-joint, which, in a few days, subsides into a sense of dull

* For the trochanter major does not occupy its proper situation, but seems to have approached, and, indeed, in some instances, almost rests upon the edge of the acetabulum.

uneasiness, resembling chronic rheumatism. But, even in this latter state, an increase of pain is felt on moving, or on bearing the weight of the body upon the injured limb. With the aid of crutches, the patient moves along, but with difficulty, and confines himself, therefore, as much as possible, to the horizontal position. The spirits become affected : his appetite is impaired : the want of proper exercise brings on a train of dyspeptic symptoms ; and he sinks at last with an enfeebled constitution and emaciated frame.

Some practitioners have imagined, that the foregoing affection is peculiar to persons of a scrophulous habit, and constitutes merely a variety of that disease denominated *Mollities Ossium*. Such a supposition will, on the slightest attention to the symptoms I have enumerated, be found to be incorrect. *Mollities ossium* is a complaint almost peculiar to early life. It is unattended by pain : it does not affect the hip-joint alone, but exists also in almost all the bones of the body at the same time. When it occurs in the femur, the shaft, and not the head and neck of the bone, presents the most marked character of its existence*. The sphere of motion in the hip-joint is not diminished, nor is there any difficulty experienced in extending the limb.

* STANLEY, Med. Chirurg. Trans. vol. vii. p. 323. l. 1816.

In mollities ossium, also, there is a deficiency of earthy matter in the substance of the bone, resulting from a morbid state of the secreting ossific vessels. In the affection which I have described, the bone possesses a proper degree of density, and sometimes appears on dissection to be even more compact in its structure, than the osseous structure generally is. The only disease, I think, with which it may be confounded, is the *morbis coxarius*, during its early stages. Both complaints are sometimes idiopathic, and both are occasionally the effect of external injury.

In the *morbis coxarius*, also, considerable pain exists in the hip, which extends down the thigh to the knee. The patient cannot move the hip-joint without suffering great uneasiness; nor can he support himself, unaided, on the affected limb. Although the *morbis coxarius* resembles, in so many of its characters, the affection which forms the subject of this paper, still it differs in many essential particulars. The former is generally a disease of youth, and is commonly attended with severe constitutional symptoms. Hectic fever, with its several concomitants, are present. The affected part becomes gradually enlarged, in consequence of the cavity of the acetabulum being filled with purulent matter, or from the thickening of the ligaments, effusion of serum, or deposition of coagulable lymph in the cellular tissue, and amongst the muscles, or the other results of inflammation; while the lower

part of the limb diminishes rapidly in bulk. In an advanced stage of this disease*, the acetabulum and capsular ligament are completely destroyed, so that either partial or complete dislocation of the Femur takes place.

But, should neither of these events happen, and there is merely a change of position resulting from ankylosis, the great trochanter and crest of the ilium preserve their proper relations with regard to each other, and the joint is incapable of any motion whatever.

From these remarks, it appears that the affection I have described is one *sui generis*. And it will be seen from the account given of the appearances observed on dissection, that it is confined entirely to the head and neck of the femur, and the membranes covering those parts, and does not, like the morbus coxarius, implicate also the acetabulum, and other portions of the pelvis.

APPEARANCES PRESENTED ON DISSECTION.

On examining the body after death, the following morbid appearances present themselves, which

* I have not, in the text, alluded to that stage of the Morbus coxarius in which the limb appears to be lengthened, in consequence of the swelling of the cartilages, &c. as, during that period, the two diseases do not bear the slightest resemblance to each other.



PLATE I.



Drawn from Nature, from a Specimen, by Benjamin Bell.

R. H. Anderson Lithog.

are, properly speaking, merely different stages of the same general affection, but, for the sake of perspicuity, may be arranged into two classes, according to the nature and character of the tissue affected.

The first class of appearances is simple inflammation, and thickening of the synovial membrane lining the cavity of the acetabulum, and of the periosteum covering the head and superior portion of the neck of the thigh-bone.

In the second class, there is superadded to the inflammation of the membrane, a partial shortening of the neck of the femur, and other appearances which I am about to mention.

CLASS I.—OF MORBID PHENOMENA.

On reflecting the orbicular ligament which invests and incloses the joint of the hip, the first morbid appearances we meet with, are a thickening and highly vascular state of the synovial membrane. The thickening of this membrane is most apparent at that part where it begins to be reflected over the head of the bone at the edge of the cartilage. Occasionally the thickening exists in distinct portions of a round or nodulated form, but in the generality of examples it is diffused, and affects equally every part of the membrane. On removing carefully

the synovial membrane, we find, that those fibres * of the capsular ligament which are reflected towards the head of the bone, partake also in some manner of the disease, for they seem to be more rigid, and of a denser structure, than they usually are in the healthy subject.

In addition to the thickening of the membrane, those vessels of the membrane which, in the healthy state, are colourless, now appear very turgid, and of a bright red tint, anastomosing with one another, and giving rise to a beautiful reticulated appearance †. The foregoing constitute what may be termed the earliest Morbid Phenomena. In a more advanced stage, the periosteum, covering the neck of the femur, becomes thickened also, and injected with red blood. When this membrane is raised, the subjacent bone is found to be drilled as it were by an infinite number of minute holes, of calibers varying from the fifth of a line to a line in

* These fibres constitute the Reflected Ligament of COOPER.

MORGAGNI, in the Fourth Book of his 56th Epistle, mentions the case of an old woman, in which the ligamentum teres presented evident symptoms of inflammation, in consequence of a contusion.

In the same place, he describes another case, where lameness proceeded from a contusion. On dissection, two small patches, of a brownish colour, were distinguished in the cartilage that invested the head of the femur.

† In one instance, I observed some small flakes of coagulated lymph mixed with the synovia.

diameter. These holes, on minute examination, do not appear to penetrate deeper than the shell or external table of the bone, and are filled by those processes of the periosteum which envelope the vessels of the osseous tissue*.

These are the morbid appearances which characterise the first stage of the disease, and which are chiefly confined to the membranous parts.

CLASS II.—OF MORBID PHENOMENA.

In the second or more advanced stage, we find, that, in addition to the inflammation and thickening of the membranes, the bone begins to be more thickly studded with the small holes already alluded to, and these commonly exist in much greater numbers at the lower or concave surface of the cervix femoris†. Something resembling a slight yielding or bending of the neck of the bone may now be perceived, for the inferior edge of the corona of the bone has approached to the lesser trochanter. This effect does not proceed from any softening or alteration in the texture of the bone, but arises in consequence of what may be denominated a kind of chronic interstitial absorption. On a cursory examination, it looks

* Vide Plate I.

† I have seen repeated exceptions to this general rule.

as if the head of the bone were forced downwards by the action of some great pressure*. I have seen some cases in which the interstitial absorption had proceeded so far, that the head of the thigh-bone rested upon the upper part of the small trochanter, and, in one instance, that tuberosity was actually hollowed out, so as to afford a cavity for the reception of the head of the femur†.

It does not always happen, however, that the absorption goes on to the greatest extent at the lower surface of the cervix, the upper surface being in some cases most materially affected, and there are examples in which it has taken place in every part of the circumference of the neck of the femur. In some rare cases, I have observed, that, combined with the shortening of the cervix femoris, there is also a flattening of the head of the bone‡, and the formation of a deep groove around the lower edge of the corona, an illustration of which is given in the plates drawn from a preparation in my possession. The absorption occasionally occupies a wider range than has been mentioned above, more than

* MORGAGNI describes two cases of lameness, in which, on dissection, there appeared an evident shortening of the cervix.—Epist. lvi. lib. iv.

† Vide Plate II.

‡ MORGAGNI mentions a similar state as occurring in the left thigh-bone of an old woman after luxation.—Epist. lvi. lib. iv.

PLATE II



PLATE III.



Drawn on Stone from Nature by Benjamin Bell — R. H. Nimmo & Lithog. Lond.

two-thirds of the cervix being consumed ; so that the head of the bone is as if it were forced in the direction of its axis towards the trochanter major. Several preparations, illustrative of this latter variety, have come under my own observation *.

Superadded to the simple yielding and absorption of the *cervix femoris*, we frequently observe extensive osseous depositions on the surface of the bone. The neck of the bone, in some of these cases, seems as if it were incased in a sheath of ossific matter, which is sometimes of a loose and spongy texture, and penetrated by numerous small holes ; while in other instances it is dense, and presents an irregular stalactitic surface. In the Medico-chirurgical Observations of CORNELIUS TRIOEN, two excellent delineations are given †, which illustrate the yielding of the cervix femoris, conjoined with the spongy exostosis already alluded to. Although absorption of the neck of the thigh-bone may have been confounded with fracture, it is the combination of this state with exostosis on the surface of the bone that gives rise to the greatest fallacy.

I have next to give an account of the internal structure of the parts, as exhibited in a longitudi-

* Vide Plate III.

† CORNELII TRIOEN, Medicinæ Doctoris Observationum Medico-Chirurgorum Fasciculus. Lugdunum, Batavorum, 1743, p. 143. Tab. xi. & xii.

nal section. Even this has not escaped the penetration of Sir ASTLEY COOPER ; for, at p. 576. of his work on Fractures and Dislocations, he remarks, “ When the neck of the thigh-bone of some persons is cut through, a line of solid bone will be seen proceeding from its shaft upwards, through the neck of the bone, having the character of a fracture united.

“ If the edge of the acetabulum be diseased, a projecting circle of bone will often be seen surrounding the neck of the thigh-bone, looking like an united fracture.”

In a bone which is in my possession, the circumstances alluded to by Sir ASTLEY COOPER are illustrated ; for, although I do not possess the history of the case previous to death, still, on examination, the appearances it presents differ so essentially from fracture, that I feel myself fully warranted in bringing it forward as an instance of absorption. A careful section has been made of the bone, which is surrounded by the spongy variety of exostosis already described. On a superficial inspection of the bone, any one would be inclined to pronounce it a fracture ; but, on more minute examination, it evidently appears that such a supposition is incorrect. The bony line does not extend completely through the neck of the femur, but merely penetrates about half of its diameter. It

PLATE IV.



on Stone, from Nature, by Benjamin Bell . H. H. Nimmo's Lithog.^y Edin.



does not proceed in a direct line, but is bifurcated, and seems to have been produced by the external table of the lower edge of the head of the femur coming in contact with that part of the external table of the neck of the bone which is situate immediately above the trochanter minor. And, although considerable shortening of the cervix femoris has taken place, still that shortening exists to the greatest extent at the inferior concave surface of the bone.

I have thus very briefly described the symptoms and pathology of the affection alluded to in the title prefixed to these remarks ; but, I am sorry to observe, that, as yet, no efficacious plan of treating it has been pointed out.

On taking into consideration, however, the train of symptoms, and the morbid phenomena which present themselves, one would feel inclined to treat the affection in the same manner as if it were chronic inflammation of the synovial and fibro-serous membranes. During the early stage of the disease, perfect rest in the horizontal position, pouring tepid water from the spout of a tea-kettle, or from a garden forcing syringe, on the joint, evaporating lotions, and cataplasms, might be of benefit, if persisted in for some weeks, as they are more powerful agents than one would at first be inclined to suspect. When the inflammatory symptoms have assumed a decided chronic character, means of a dif-

ferent kind should be resorted to. From what I have learned from books, and observed in practice, it appears to me, that those remedies which act as powerful local irritants, are most likely to prove beneficial. The applications of this class are very numerous; and it may be proper, therefore, to specify those which are most worthy of consideration. *Blisters*, the *tart. emetic ointment*, *ointment* prepared with *corrosive sublimate*, *issues*, *moxa*, and the *actual cautery*, may be esteemed the most powerful local stimulants to be resorted to, with any prospect of success. The operation of the three former, viz. *Blisters*, *tartar emetic*, and *cor. sublim. ointments*, is principally confined to the surface of the skin, while that of the three latter extends to the subjacent cellular membrane.

In employing blisters, care should be taken to keep up a continued irritation of that part of the surface immediately *over the joint*, and a little in front of the *great trochanter*. This object can only be accomplished by a frequent succession of them. The *tartar emetic ointment* is a remedy similar in its operation to a blister, and is, on the whole, more manageable, and less apt to give rise to constitutional irritation. It must be employed, however, with great caution, as the particles of the antimonial salt are very slowly absorbed; care should therefore be taken, after having, by friction with a piece of flannel, promoted the action of the application, to wipe away the remainder of the ointment which

adheres to the surface, as, on drying, the antimonial powder is apt, on the slightest motion of the bed-clothes, to be removed from the affected limb, and to be brought into contact with other parts of the body. I have seen the most disagreeable consequences result from inattention to this circumstance. The *moxa* is liable to fewer objections than either of the preceding applications, as its operation may be regulated with greater certainty, and has no tendency to give rise to any violent constitutional disturbance. Indeed, the *moxa* may be employed either as a simple vesicatory, or as a substitute for the actual cautery. It is a more certain and rapid vesicatory than cantharides, and less terrible in its appearance, and not so painful to the patient, as the actual cautery.

It would occupy more space than it is my intention to dedicate to this paper, were I to dwell more minutely on the treatment of the affection which has been under review. On a future occasion, I shall perhaps seize an opportunity of laying before the public cases illustrative of the subject *. In the mean time, permit me to conclude, with a request to those Practitioners who are in the habit of paying

* Among others, I have been favoured by Dr HAWKINS of London (*who was for thirty years an eminent surgeon in Glamorganshire, and who happened to be present at a meeting of the Royal Medical Society when I exhibited preparations illustrative of the disease*) with a valuable communication, containing

minute attention to chronic diseases of the hip-joint, that they will take into consideration the circumstances stated in the foregoing paper; and, should any gentleman be so kind as to favour me with an account of cases coming under his observation, which tend either to substantiate or controvert the statements I have made, I shall esteem myself as much obliged by the communication.

the result of his observations in several cases resembling the early stage of the affection alluded to.

The practice followed by Dr HAWKINS in these cases, consisted chiefly in a minute attention to the state of the digestive organs, and to perfect rest in the horizontal posture.

It would not be doing justice to Dr HAWKINS' communication were I to insert it at length in this place. I shall reserve it, therefore, for some future and more favourable opportunity.

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LONDON :
Printed by A. & R. Spottiswoode,
New-Street-Square.

